

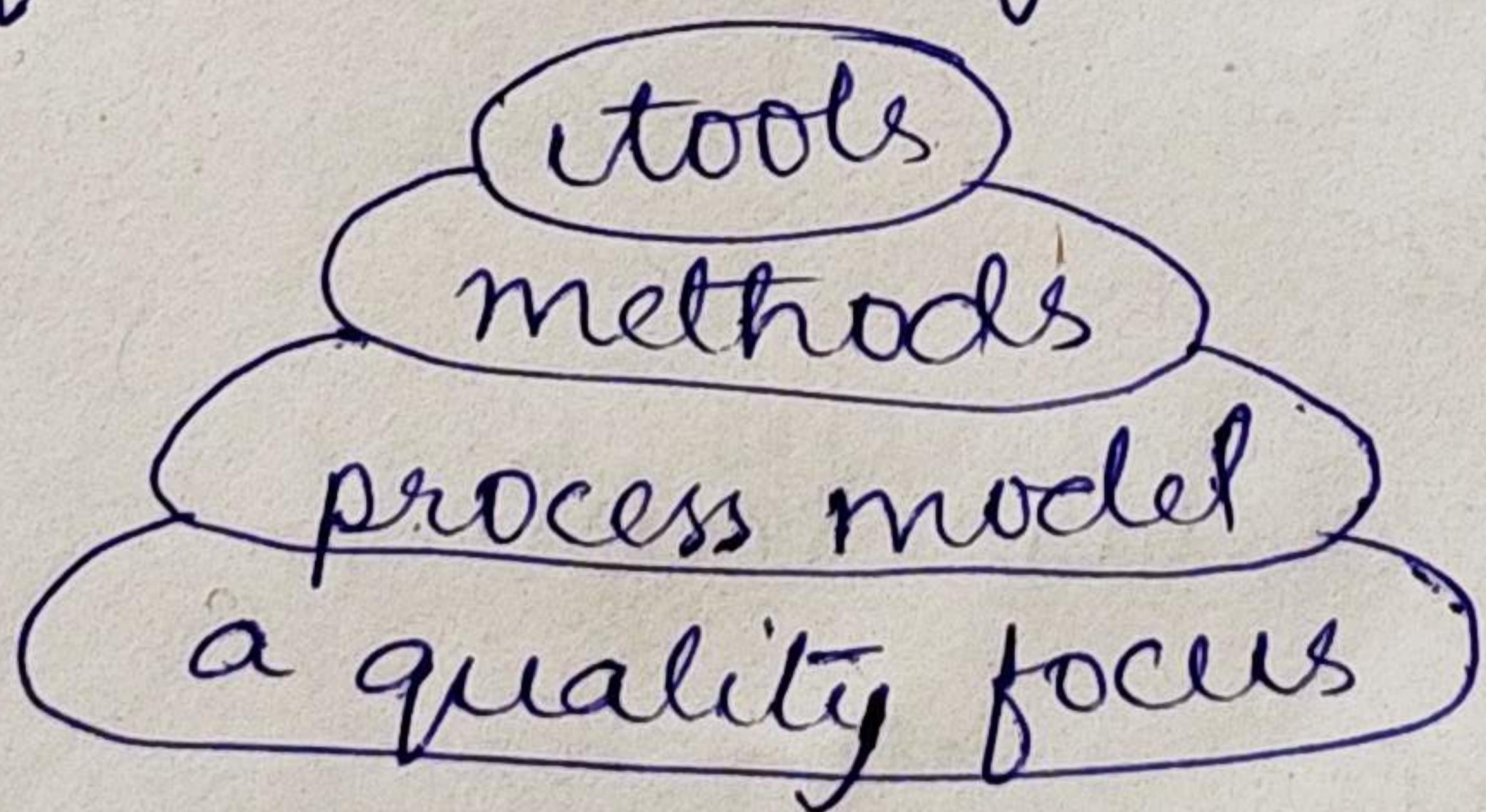
SE Assignment-1

K.J.S.Shivani
18WHIA1256

Q) Justify that Software Engineering is a layered technology.

- Ans
- 1) SE main goal is to build a high quality software.
 - 2) SE rests on goal—an organizational commitment to procedure step quality product.
 - 3) Methods provide the concrete technical how-to's, for building SW.

Software Engineering



- 4) Bottom layer claims the quality which is extremely essential for software provided.
- 5) Process layer is where main SE activity begins.
- 6) It form main source to adhere technology on time delivery.

- 6) Process impaction SE is in 2 levels
 - a) Designing framework
 - b) Management level
- 7) Methods specifies a criterion in construction of high quality software.
- 8) Tools form major source for development.
 - a) Process and method depend on tools for implementation.
 - b) Explain how process framework establishes foundation for a complete software process.

Any Process framework:

Framework activities:

work tasks

work products

milestones & deliverables

QA checkpoints

Umbrella activities

→ Framework activities:

- 1) Initiation (communication): gather requirement, collaboration with customers.
- 2) Planning describes technical risks, list of

resource requirements.

- 3) Modelling creation of model to help developers & customers understand requirements.
- 4) Analysis of requirements.
- 5) Design model.
- 6) Development - construction / code development.
- 7) Testing
- 8) Deployment

→ Umbrella activities

- 1) S/w project management
- 2) Formal or technical reviews
- 3) Risk management
- 4) S/w assurance for quality
- 5) Reusability management
- 6) Work, product, preparation & production.

*

- 3) Compare Incremental & Evolutionary models.

Evolutionary

- 1) supports changing requirements
- 2) Progress depends on risk-analysis
- 3) Compatibility is desirable.
- 4) Designed to adopt quickly.

Incremental

- 1) changing requirements is cost-effective.
- 2) Possibility of measuring progress.
- 3) Compatibility is necessary.
- 4) Working versions are produced quickly.

4. Analyze non-functional requirements.

Any → They define system properties & constraints.
→ Ex: reliability, response time.
→ Non-functional requirements:

- 1) Product requirement: Those which specify that delivered product must behave in particular way.
• Eg: user interface for LIBSYS
- 2) Organisation requirement which are consequence of organization policies & procedures.
• Eg: System development process.

3) External requirements: which arise from factors which are external to the system and its development process.

Eg: legislative requirements.

5)

Explain levels of capability maturity model.

Ans

CMMI defines each process area in terms of specific goals.

levels:

Level 0: Incomplete (Process is not performed).

Level 1: Performed (work products are being conducted).

Level 2: Managed (people doing work have access to adequate resources).

Level 3: Defined (documented & standardised).

Level 4: Quantitatively managed.

Level 5: Optimizing (continuous process improvement).